

RTD

Thermodynamic recovery unit with Inverter compressor
Nominal air flow rate from 1100 to 3200 m³/h



- **COMPACT DIMENSIONS**
- **INVERTER COMPRESSOR**
- **PLUG FANS WITH EC INVERTER MOTOR**
- **ADVANCED FIXED POINT SETTING IN DELIVERY**

Features

RTD is an air replacement, filtration and treatment unit equipped with high efficiency thermodynamic recovery performed by an integrated cooling circuit.

The inverter compressor allows a high energy saving at the same time as maintaining the set delivery temperature.

The unit can be integrated in the direct expansion and hydronic systems both in heating and cooling mode.

Internal horizontal installation:

- RTD :** standard unit with constant flow-rate control
- Q :** units with flow modulation according to the concentration of CO₂
- W :** with internal hot/cold water coil complete with three-way valve, modulating servo-control and anti-freeze thermostat.
- Cooling circuit **BLDC inverter compressor**
 - **Plug fans with EC inverter motor**
 - **power and control electrical panel** on the machine
 - **Programmable controller** able to manage all the advanced functions present on the unit (with fixed point adjustment in delivery; cooling, heating, automatic, free cooling functions; compressor, fans and eventual water coil modulation)
 - Lower sandwich panels in galvanised sheet

metal with injected polyurethane insulation; upper and side panel in galvanised sheet metal internally lined with insulating mat

- **Condensate collection tank** in aluminium alloy with side discharge
- **Remote panel (mandatory accessory)** in graphic display version or Touch version

Accessories

MODULES SUPPLIED UNASSEMBLED

- **MRE_ _ :** Single-stage ON / OFF anti-freeze electric heater module to be installed on the external air intake (required for outdoor air temperatures below -5° C).
- **MF5R_ :** Coarse 85% efficiency filters module (EN16890) to be positioned in recovery (side extraction) complete with filter clogging pressure switch

- **MF7M_ :** ePM1 60% efficiency filters module (EN16890). Side extraction to be positioned in external air aspiration complete with filter clogging pressure switch.
- **CPVR:** Recovery fan constant air flow rate control (accessory supplied separately; the function is enabled on the controller).

REMOTE PANEL (COMPULSORY ACCESSORY) to be chosen from the following:

- **PRGD1 :** control panel for wall or flush-mount installation with graphic display. Maximum installation distance of 10 m.
- **PRGDx :** touch screen control panel for wall or flush-mount installation complete with black and white frame. Maximum installation distance of 150 m.

Compatibility of accessories

RTD	11	14	17	21	26	32
MRE*	MRE2M		MRE3M	MRE3T	MRE5T	
MF5R	MF5R1		MF5R2		MF5R3	
MF7M	MF7M1		MF7M2		MF7M3	
CPVR	CPVR					
PRGD1	PRGD1					
PRGDx	PRGDx					

* The number indicates the power of the electric battery, the last letter indicates M = single-phase power supply, T = three-phase power supply.

Choice of unit

By suitably combining the numerous options available, it is possible to configure each model in such a way as to meet the most specific system requirements.

Field	Abbrev.
1,2,3	RTD
4,5,6	Size 11 - 14 - 17 - 21 - 26 - 32
7	Ventilation control type ° Constant flow (standard unit) Q Control via air quality probe
8	Internal hot/cold water coil ° no coil (standard unit) W Coil

Example of commercial code: **RTD11** (standard unit); **RTD11Q** (unit with air flow control via air quality probe) ; **RTD11W** (unit with internal water coil) ; **RTD11QW** (unit with air flow control via air quality probe and internal water coil) ;
Each option is represented in a unique way from all the others, so it is not necessary to indicate (within the commercial code) the standard options (indicated by °).

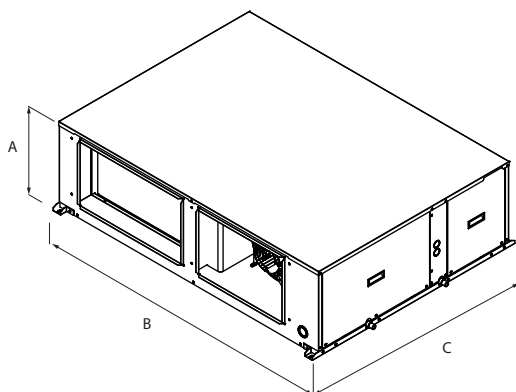
Technical data

RTD		11	14	17	21	26	32
Nominal air flow rate	m ³ /h	1100	1400	1700	2100	2600	3200
Minimum air flow rate	m ³ /h	950	1200	1450	1800	2200	2700
Maximum air flow rate	m ³ /h	1200	1550	1850	2300	2850	3500
DELIVERY FANS							
Number of fans	no.	1					
Type		Plug-fan EC inverter					
Nominal useful head	Pa	150	150	150	150	150	150
Maximum useful head	Pa	510	580	520	360	570	380
Installed power	kW	0,50	0,50	0,50	0,50	0,93	0,93
Input power (cooling)	kW	0,19	0,20	0,23	0,32	0,43	0,62
Input power (heating)	kW	0,18	0,18	0,22	0,30	0,39	0,56
EXPULSION FANS							
Number of fans	no.	1					
Type		Plug-fan EC inverter					
Nominal useful head	Pa	150	150	150	150	150	150
Maximum useful head	Pa	530	600	520	370	590	400
Installed power	kW	0,50	0,50	0,50	0,50	0,93	0,93
Absorbed power	kW	0,17	0,16	0,19	0,27	0,33	0,46
Input power (cooling)	kW	0,17	0,16	0,19	0,27	0,33	0,46
Input power (heating)	kW	0,18	0,18	0,22	0,31	0,39	0,54
PERFORMANCE IN COOLING MODE AT MAXIMUM COMPRESSOR SPEED							
Total cooling capacity	kW	6,7	8,0	8,8	11,2	14,1	16,3
Sensible cooling capacity	kW	5,7	6,8	7,8	9,8	12,1	13,8
Compressor absorbed power	kW	1,8	2,2	2,3	3,2	4,0	4,5
E.E.R. cooling circuit	W/W	3,72	3,65	3,83	3,51	3,52	3,62
Total input power EN14511 2017	kW	2,09	2,43	2,58	3,55	4,48	5,15
Total input power	kW	2,15	2,55	2,72	3,79	4,77	5,58
E.E.R. EN14511 2017	W/W	3,20	3,30	3,42	3,16	3,14	3,16
E.E.R. overall	W/W	3,11	3,15	3,24	2,96	2,95	2,92
PERFORMANCE IN HEATING MODE AT MAXIMUM COMPRESSOR SPEED							
Thermal power	kW	7,7	9,3	10,6	13,8	16,9	20,0
Compressor absorbed power	kW	1,6	2,0	2,2	2,9	3,3	4,1
C.O.P.	W/W	4,83	4,64	4,82	4,74	5,12	4,87
Total input power EN14511 2017	kW	1,90	2,20	2,50	3,30	3,80	4,80
Total input power	kW	2,00	2,40	2,60	3,50	4,10	5,20
C.O.P. EN14511 017	W/W	4,07	4,13	4,26	4,20	4,45	4,18
C.O.P. overall	W/W	3,94	3,92	4,02	3,91	4,15	3,84
COMPRESSOR							
Type		Twin-rotary BLDC					
Commissioning		Inverter					
FILTERS							
External air filter	type/no	M5/1 (F7 accessory)					
Expelled air filter (accessory)	type/no	M5/1					
ELECTRICAL DATA							
	V/ph/Hz	230V~50Hz	230V~50Hz	230V~50Hz	400~3N 50Hz	400~3 50Hz	400~3 50Hz
F.L.I.		4,3	4,5	4,5	5,3	6,1	6,1
F.L.A.		14,4	13,8	13,8	17,9	16,9	16,9

Cooling mode: Aire temperature Tbs/Tbh 35°C/24°C ; Ambient air Tbs/Tbh 27°C/19°C

Heating mode: Aire temperature Tbs/Tbh 7°C/6°C ; Ambient air Tbs/Tbh 20°C/15°C

Dimensions (mm)



RTD		11	14	17	21	26	32
A	mm	430	430	530	530	630	630
B	mm	1508	1508	1508	1508	1508	1508
C	mm	1132	1132	1132	1132	1132	1132